USGS
science for a changing world

Earthquake
Shaking

Green
Alert

GSN USAID FROM THE AMERICAN PEOPLE
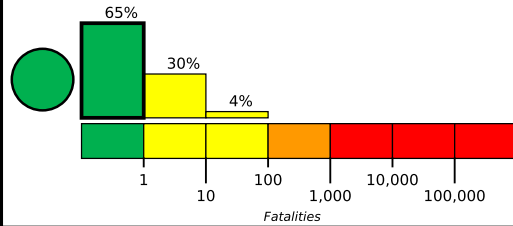
ANSS

PAGER
Version 5

M 5.7, 3 km NW of Don Carlos, Philippines

Origin Time: 2021-06-14 14:38:42 UTC (Mon 22:38:42 local)
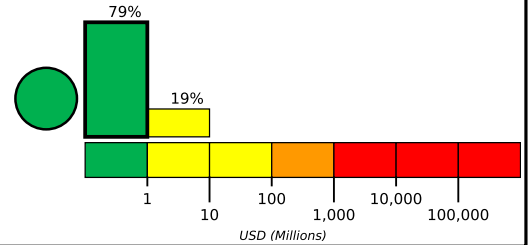Location: 7.7077° N 124.9830° E Depth: 10.0 km

Created: 1 day, 0 hours after earthquake

Estimated Fatalities

Green alert for shaking-related fatalities and economic losses. There is a low likelihood of casualties and damage.
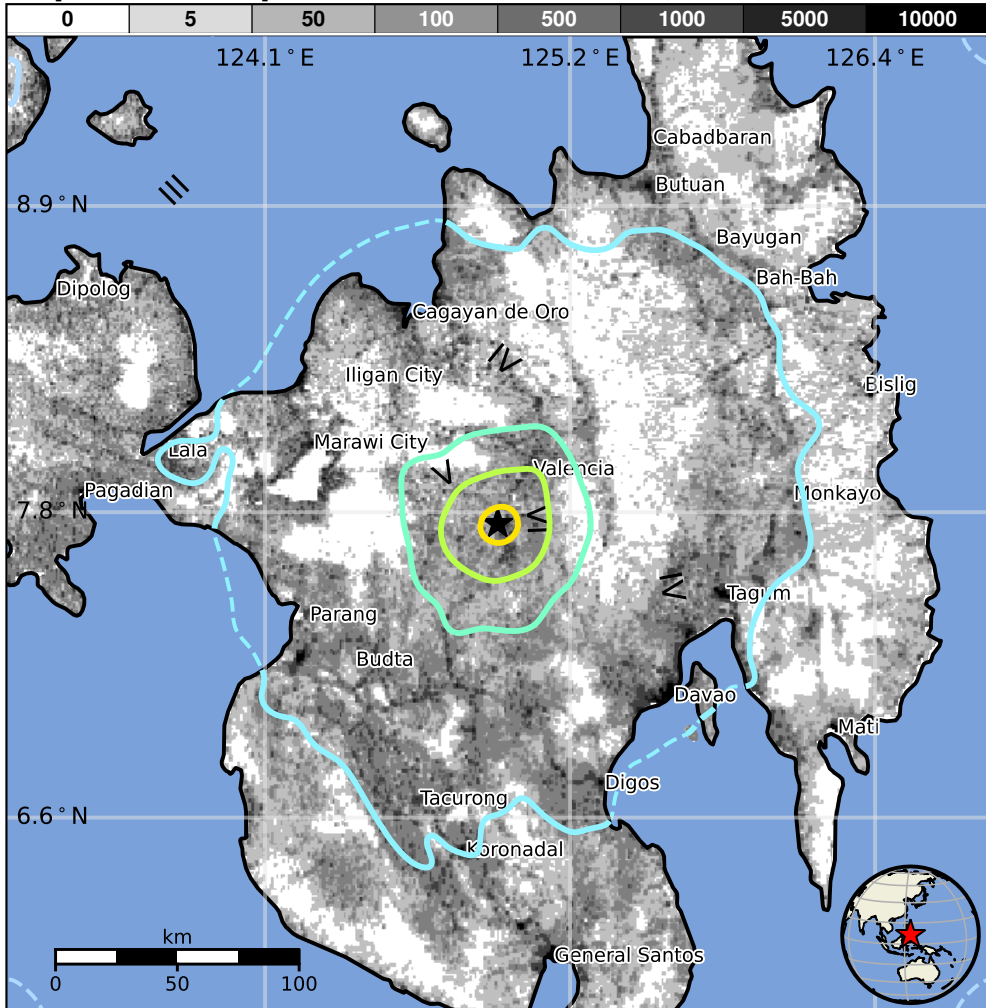
65%
30%
4%

1 10 100 1,000 10,000 100,000
Fatalities

Estimated Economic Losses

79%
19%

1 10 100 1,000 10,000 100,000
USD (Millions)

Estimated Population Exposed to Earthquake Shaking

ESTIMATED POPULATION EXPOSURE (k=x1000)		—*	7,140k*	13,515k	709k	398k	125k	0	0	0
ESTIMATED MODIFIED MERCALLI INTENSITY		I	II-III	IV	V	VI	VII	VIII	IX	X+
PERCEIVED SHAKING		Not felt	Weak	Light	Moderate	Strong	Very Strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	Resistant Structures	None	None	None	V. Light	Light	Moderate	Mod./Heavy	Heavy	V. Heavy
	Vulnerable Structures	None	None	None	Light	Moderate	Mod./Heavy	Heavy	V. Heavy	V. Heavy

*Estimated exposure only includes population within the map area.

Population Exposure

population per 1 sq. km from Landscan

0	5	50	100	500	1000	5000	10000

Structures

Overall, the population in this region resides in structures that are a mix of vulnerable and earthquake resistant construction. The predominant vulnerable building types are unknown/miscellaneous types and heavy wood frame construction.

Historical Earthquakes

Date (UTC)	Dist. (km)	Mag.	Max MMI(#)	Shaking Deaths
1987-05-23	64	5.7	VII(70k)	1
1990-02-08	232	6.7	VIII(96k)	1
2002-03-05	206	7.5	VIII(12k)	15

Recent earthquakes in this area have caused secondary hazards such as landslides that might have contributed to losses.

Selected City Exposure

from GeoNames.org

MMI	City	Population
VII	Don Carlos	20k
VII	Maramag	34k
VII	Kitaotao	4k
VII	San Vicente	2k
VI	Dancagan	5k
VI	San Jose	6k
IV	**Cagayan de Oro**	**445k**
IV	Cotabato	179k
IV	**Davao**	**1,213k**
IV	**Butuan**	**310k**
III	Pagadian	187k

bold cities appear on map.   (k = x1000)